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“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 11075-2-2 (1985): Radio Frequency Connectors of BNC, TNC and UHF Series, Part 2: BNC Series, Section 2: Cabled Socket Type 11075 IS-02-01 to 02 and 50 to 51 [LITD 3: Electromechanical Components and Mechanical Structures for Electronic Equipment]

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Bhartṛhari—Nītiśatakam

“Knowledge is such a treasure which cannot be stolen”





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Indian Standard



# SPECIFICATION FOR RADIO FREQUENCY CONNECTORS OF BNC, TNC AND UHF SERIES

## PART 2 BNC SERIES

### Section 2 Cabled Socket Type 11075 IS-02-01 to 02 and 50 to 51

**0. General** — This standard shall be read in conjunction with IS : 11075 ( Part 1 )-1984 'Specification for radio frequency connectors of BNC, TNC and UHF series: Part 1 Test schedule and requirements'.

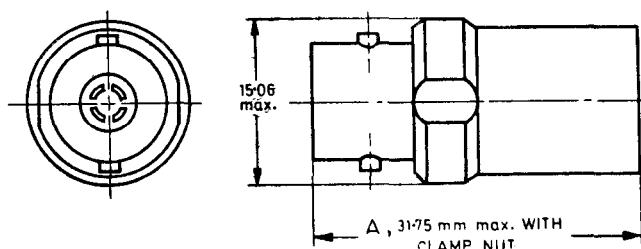
**1. Type Designation** — The types of connectors covered by this standard are designated [ see 4.1 of IS : 11075 ( Part 1 )-1984 ] as given in Table 1.

TABLE 1 TYPES OF CONNECTORS

Type No.	Impedance	Applicable Cable	*Type of Termination	Usage
(1) 11075 IS-02-01	(2) 50 ohms	(3) R 50-3-A03 R 50-3-A02 R 50-3-C47 R 50-3-C48	(4) Clamp	Professional
11075 IS-02-02	50 ohms		Crimp	Professional
11075 IS-02-50	50 ohms	R 50-3-A03 R 50-3-A03 R 50-3-C47 R 50-3-C48	Clamp	Consumer
11075 IS-02-51	50 ohms		Crimp	Consumer

\*The centre contact in case of all connectors shall be soldered. Terminology regarding the type of termination refers only to the method of connection of cable braid to connector outer contact.

**2. Outline and Dimensions** — The outline and dimensions shall be according to Fig. 1.



Note — All undimensioned pictorial representations are for reference purposes only.

FIG. 1 OUTLINE AND DIMENSIONS

**3. Mating Interface Dimensions** — See Fig. 2 of IS : 11075 ( Part 1 )-1984 for mating interface dimensions.

**4. Material, Finish and Life** — The material, finish and life requirement shall be as under:

a) **Material**

1) Body — Brass conforming to IS : 319-1974 'Specification for free-cutting brass bars, rods and sections ( third revision )' or IS : 531-1971 'Specification for leaded brass strip for instrument parts ( second revision )'.

2) Centre contact

For professional grade — Beryllium copper

For consumer grade — Phosphor bronze

- 3) Insulation material — PTFE
- 4) Gasket
  - For professional grade — Silicon rubber
  - For consumer grade — Neoprene rubber
- b) *Finish*
  - 1) Professional grade
    - i) Centre contact — 1.27 microns minimum gold plated over 5 microns minimum nickel or copper under plate.
    - ii) Other metal parts — 5 microns minimum silver or nickel plated. Braid clamps shall be silver plated 5 microns minimum.
  - 2) Consumer grade
    - All metal parts minimum silver or nickel plated except centre contact and braid clamp to be silver plated 5 microns minimum.
- c) *Mechanical Life*
  - 500 mating cycles for pairs at 12 cycles/min ( *Max* )

## **5. Climatic Category**

a) Temperature severity	
1) Professional grade	— 65°C to + 200°C
2) Consumer grade	— 10°C to + 70°C
b) Damp heat severity	56 days
c) Air pressure ( low )	4.4 kPa
d) Acceleration ( steady state )	170 m/s <sup>2</sup>
e) Vibration	10 to 2 000 Hz
f) Impact ( shock )	500 m/s <sup>2</sup>

## **6. Mating Characteristics**

a) Centre contact ( Female )	
1) Oversize test pin ( for non-closed entry contacts only )	1.45 mm dia ( <i>Min</i> )
2) Number of insertions	1
3) Insertion depth	3.18 mm ( <i>Min</i> )
b) Insertion Force Test	
1) Steel test pin diameter	1.37 mm ( <i>Min</i> )
2) Test pin finish	0.4 microns
3) Insertion force	8.90 N ( <i>Max</i> )
c) Withdrawal Force Test	
1) Steel test pin diameter	1.32 mm ( <i>Max</i> )
2) Test pin finish	0.4 microns
3) Withdrawal force	0.55 N ( <i>Min</i> )

## **7. Mechanical Characteristics**

a) Engagement and Disengagement Force	
1) Longitudinal force	13.35 N ( <i>Max</i> )
2) Torque	283 mNm ( <i>Max</i> )
b) Centre contact retention force — Not applicable	

c) Cable retention force

- 1) Non-crimp assemblies 178 N (Min)
- 2) Crimp assemblies
  - 222.50 N (Min) for cables 3.94 to 4.80 mm OD
  - 267 N (Min) for cables 4.81 to 5.82 mm OD
  - 333.75 N (Min) for cables 5.83 to 6.33 mm OD
  - 400.50 N (Min) for cables 6.34 mm OD and larger

d) Coupling mechanism retention force — Not applicable

## 8. Electrical Characteristics

- a) Corona
  - 1) Corona level: 375 V (Min) at 4.4 kPa (low air pressure)
  - 2) Cable length: 152.4 cm
- b) Voltage Rating
  - 1) At sea level: 500 V rms (Max)
  - 2) At low air pressure: 125 V rms (Max)
- c) Characteristic impedance: see Table 1
- d) Frequency range: DC to 4 GHz
- e) VSWR: 1.3 (Max) at 500 MHz to 4 GHz
- f) RF leakage: 55dB (Max) at frequencies between 2 and 3 GHz
- g) RF insertion loss: 0.2 dB (Max) at 3 GHz
- h) RF voltage proof
  - 1) Voltage and frequency: 1 000 V rms at 5 to 7.5 MHz
  - 2) Leakage current — not applicable

9. Tests — See 8 of IS : 11075 (Part 1)-1984.

10. Marking — See 5 of IS : 11075 (Part 1)-1984.

## EXPLANATORY NOTE

This standard is based on JSS 52401 (Feb 1975) 'Detail specification for connectors, radio frequency, Series BNC, TNC and UHF. The types of connectors covered in this standard are equivalent to pattern JSS 52401/02.